

BUREAU OF LAND MANAGEMENT
SOUTHEASTERN STATES FIELD OFFICE
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206

ENVIRONMENTAL ASSESSMENT (EA) FORM

ES-020-2013-07

PROJECT NAME: Salinas Reyes 9-15 #7 and #8 APD EA

TECHNICAL REVIEW:

X	Program	Reviewer	Signature	Date
	Lands/Realty			
X	Environmental Justice	Brian Kennedy Physical Scientist		1/7/13
	Wild Horse & Burro			
	Communications (Dispatch)			
X	Cultural/Paleontology	John Sullivan Archeologist		1/8/13
X	Native American Religious Concerns	John Sullivan Archeologist		1/8/13
	Wilderness			
	Farmlands (Prime & Unique)			
X	Recreation	Brian Kennedy Physical Scientist		1/7/13
X	Visual Resources	Brian Kennedy Physical Scientist		1/7/13
	Operations			
	Fire Management			
	Range Management			
	Law Enforcement			
	Land Law Examiner			
X	Energy Policy	Brian Kennedy Physical Scientist		1/7/13
X	Minerals	Brian Kennedy Physical Scientist		1/7/13
	ACEC			1/7/13
X	Surface Protection	Brian Kennedy Physical Scientist		1/7/13
X	Hazardous Material	Brian Kennedy Physical Scientist		1/7/13

X	Soils	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	1/7/13
X	Air Quality	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	1/7/13
X	Water Quality (Surface & Ground)	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	1/7/13
	Water Rights			
X	Floodplain	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	1/7/13
X	Wetlands/Riparian Zones	Brian Kennedy Physical Scientist	<i>Brian Kennedy</i>	1/7/13
	Wild & Scenic Rivers			
X	Invasive & Non-Native Spp.	Faye Winters Wildlife Biologist	<i>Faye Winters</i>	1/8/13
X	Botanical including T&E Spp.	Faye Winters Wildlife Biologist	<i>Faye Winters</i>	1/8/13
X	Wildlife including T&F Spp.	Faye Winters Wildlife Biologist	<i>Faye Winters</i>	1/8/13

Prepared by: *Brian Kennedy*
 Brian Kennedy
 Physical Scientist

Date: 1/7/13

Reviewed by: *Victoria P. Graft*
 for Gary Taylor
 NEPA Coordinator

Date: 1/8/13

Reviewed by: *Victoria P. Graft*
 for Duane Winters
 Resource Supervisor

Date: 1/8/13

Reviewed by: *Bill D Bagnall*
 Bill Bagnall
 Minerals Supervisor

Date: 1/8/13



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Bureau of Land Management**

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**Environmental Assessment
EA-020-2013-07**

Salinas Reyes 9-15 #7 and #8 APD EA

**Prepared by: Brian Kennedy, Physical Scientist
Date: December 17, 2012**

CH 1 – PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Introduction

On September 5, 2012, SEECO, Inc. submitted two Applications for Permit to Drill (APD) for the proposed: Salinas Reyes 9-15 #7 and #8 natural gas wells to the Bureau of Land Management (BLM), Southeastern States Field Office (SSFO). Both wells are on the same well pad. The well locations are approximately 2 miles east of the community named Lost Corner, Arkansas and located $\frac{3}{4}$ mile off of County Highway 39. Both APDs were submitted in accordance with Onshore Oil and Gas Order No. 1 (43 CFR 3164), administered by the BLM. The well site for both APDs is located on private property. The wells, if approved, will drill into federally owned and leased oil and gas mineral rights. The leasing and development of federal oil and gas minerals is authorized by several statutes including: The Mineral Leasing Act, as amended and supplemented (30 U.S.C. 181), and The Mineral Leasing Act for Acquired Lands, as amended (30 U.S.C. 351-359).

Need for the Proposed Action

An APD is a proposed action under BLM jurisdiction requiring federal approval for a permit to drill and as such must be reviewed for compliance with various statutes, laws and regulations including the National Environmental Policy Act of 1969 (NEPA).

A federal oil and gas lease is a legal contract that grants exclusive rights to the lessee to drill for and remove all oil and gas from the lease with the right to build and maintain necessary improvements. The subject lease was issued by the BLM following a decision by the Authorized Officer to allow leasing of the oil and gas rights on the property. The leasing decision and leasing action represent a commitment to allow exploration and development of potential oil and gas resources on the property. Hence, the drilling activity on the lease constitutes a valid lease right and is needed in order to fulfill the purpose and intent of the lease.

SEECO, Inc. submitted two APDs in accordance to Onshore Order #1 as directed by BLM for the development of oil and gas resources under BLM jurisdiction. BLM's responsibility is to review such applications in accordance with federal and state laws, policies, and regulations so that oil and gas resources can be developed in a way that is beneficial to the American public as well as ensure the U.S. Government's interests are not being drained and/or trespassed on oil and gas activity.

Management Objectives of the Action

The desired outcome of the proposed action is the approval of SEECO, Inc.'s two APDs for the extraction of natural gas submitted to BLM. Approval of the APDs from SEECO, Inc. would allow the continued extraction and production of federally owned natural gas. Not approving these natural gas wells would stop the development of federal minerals in this area and create a loss of royalties to the federal government.

Land Use Plan Conformance

This area is not covered by a BLM Resource Management Plan. According to the regulations at 43 CFR 1610.8 (b) (1), however, this environmental assessment can be used as a basis for making a decision on the proposal.

Applicable Regulatory Requirements and Required Coordination

Applicable Regulatory Requirements and Required Coordination include: The Mineral Leasing Act, as amended and supplemented (30 U.S.C. 181), The Mineral Leasing Act of 1947, as amended (30 U.S.C. 351-359), Leasing Reform Act of 1987, 43 CFR 3162.3, 43 CFR 3162.5, Onshore Oil & Gas Order No. 1, Energy Policy Act of 2005, National Environmental Policy Act, 1969 (NEPA), Arkansas Department of Environmental Quality (AR DEQ), The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.

The following agencies/tribes were contacted for cultural compliance under Section 106:

- Quapaw Tribe of Oklahoma
- Osage Nation
- Choctaw Nation of Oklahoma
- Chickasaw Nation
- Cherokee Nation of Oklahoma
- United Keetoowah Band of Cherokee Indians in Oklahoma
- Seminole Nation of Oklahoma
- Muscogee (Creek) Nation of Oklahoma
- Thlopthlocco Tribal Town
- Caddo Indian Tribe of Oklahoma
- Tunica-Biloxi Tribe of Louisiana
- Alabama-Quassarte Tribal Town
- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer

Consultation completed by BLM staff:

- Arkansas Historic Preservation Program (AHPP), State Historic Preservation Officer

The following BLM employees attended an onsite visit in September 2012:

- (1) John Sullivan, SSFO Archeologist
- (2) Brian Kennedy, SSFO Physical Scientist

Decision(s) That Must Be Made

The Bureau of Land Management (BLM) has two decisions under consideration for the proposed action of approving the two APDs submitted by SEECO, Inc. The "Proposed Action" and the "No Action" options are considered the only two reasonable alternatives under decision by BLM. No issues were raised during the scoping process and/or onsite inspection that would suggest or identify other alternatives for consideration. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the proposed action.

First and preferred decision for consideration is the approval of both APDs which are located on one well pad location in Conway County, Arkansas submitted by SEECO, Inc. The preferred decision would allow the drilling of two natural gas wells to protect federal mineral interests from being drained from nearby oil and gas production. Approving the APDs would give SEECO, Inc. the permission to begin developing the federal minerals of ARES-56458 in return the U.S. Government would be paid royalties for those minerals developed. The no action or second decision to consider would be to disapprove both APD submitted by SEECO, Inc. If the second decision was proven to be the appropriate and best course of action by BLM, the proposed well site for the APDs submitted would not be recommended by BLM to SEECO, Inc. for development or any future submittal of APDs for that location. Royalties would not be collected and drainage of federal minerals would continue take place from the neighboring private leases. This EA will discuss and review all SESFO NEPA elements taken under consideration to provide management with the best decision appropriate for all proposed actions. BLM's policy is to promote oil and gas development as long as it meets the guidelines and regulations set forth by the National Environmental Policy Act of 1969 as other subsequent laws and policies passed by the U.S. Congress.

CH 2 – ALTERNATIVES INCLUDING THE PROPOSED ACTION

Introduction

BLM will review the APDs submitted by SEECO, Inc. for the Salinas Reyes 9-15 #7 and #8 wells. The APDs are both proposed natural gas wells. The well site where both APDs are located is on private property in Conway County, Arkansas approximately 2 miles east of Austin, Arkansas.

APD Location

Salinas Reyes 9-15 #7 - 509' FNL and 310' FWL in Section 20, T. 9 N., R. 15 W.; 5th Principal Meridian, Conway County, Arkansas

Salinas Reyes 9-15 #8 - 509' FNL and 290' FWL in Section 20, T. 9 N., R. 15 W.; 5th Principal Meridian, Conway County, Arkansas

Proposed Action (Preferred Option)

The proposed action is to approve the well pad location for both APDs submitted by SEECO, Inc. with approximately 3 acres of total surface disturbance for construction of a well pad, reserve pit, and access road. SEECO, Inc. provided plats detailing both well pad designs and area of coverage for the proposed APDs. The proposed federal wells will be drilled horizontally for gas development. Drilling plans for the wells were submitted with the APDs and will be reviewed by BLM as part of the approval process.

Construction

The specific plans for construction of the site are included in the Surface Use Program (SUP) of the APD. The SUP is incorporated by reference into this EA, is maintained in the appropriate well file at the BLM, Southeastern States Field Office, and is available for review.

Both proposed APDs are located on the same well pad which utilizes a square-shaped well pad (370' X 270') approximately 2.3 acres of disturbance in size. The well pad area will be leveled for support of a drilling rig. A reserve pit will be constructed on the downhill side (south end) of the well pad for discharge of the drilling fluids. The reserve pit is 100' X 100' and approximately 0.2 acres in disturbance. The reserve pit is mainly for cuttings due to the use of a "closed-loop" system. The access road right-of-way (ROW) dimensions are 30' X 700' being approximately 0.5 acres in disturbance on private land across a managed pine plantation. The pad's elevation is at \pm 560'. Other design features are included in the SUP.

Drilling

The specific plans for drilling operations are included in the Drilling Programs (DP) of each APD submitted by SEECO, Inc. This program is incorporated by reference into this EA. The DP is maintained in the well file at the BLM, Southeastern States Field Office and is available for review. Both wells will be drilled to a depth of approximately 4,300 feet total volume depth (TVD). The casing and cementing program for each APD was submitted and reviewed by BLM and, if necessary, will be modified to meet BLM standards, if an issue of safety or integrity is found. BLM regulations require that the operator isolate freshwater-bearing strata and other usable safe drinking water formations containing 10,000 ppm or less of dissolved solids, and other mineral-bearing formations, and protect them from contamination (43 CFR 3162.5-2d). Surface casing would be placed below surface and cemented back to the surface to protect usable safe drinking water. The circulated mud and drilling fluids will be contained onsite in tanks due to operator using a closed-loop system. Cuttings will be discharged into a reserve pit. No water will be used from the private landowner's property in conjunction with drilling operations for either well. SEECO, Inc. has an agreement with the private landowner to transport by truck material and fluids needed in their operations across their property.

The blowout prevention program has been reviewed by BLM for assurance that, in the event of a blowout, each well can be controlled. SEECO, Inc. provided BLM the details of the well's production casing in the APD. The production casing of each well is in accordance with BLM regulations/standards. Other design features pertaining to drilling are included in the DP.

Production Facilities

Each well when completed will result in natural gas production. Production equipment will be put in place located on the well pad site for both wells. Production and gathering lines are detailed in the facility diagram which is part of each APD and DP submitted. Lines leaving the well pad will be laid in the well site's road right-of-way (ROW) established by the private landowner. Any new facilities or lines, SEECO, Inc. will have to submit them to BLM for approval by a Sundry Notice. Any new surface disturbance is subject to NEPA review. Any production facilities will be reviewed by BLM as part of the APD approval process to ensure proper construction, usage, and management.

Reclamation

The reclamation plan applies to all disturbed areas following a dry hole or abandonment of any well and to all areas not needed for production of that producing well. A well will be plugged after completion and no limbs, trees, or tops will be placed in the reserve pit. Other aspects of the project relative to reclamation are addressed in the SUCOA submitted by BLM. Upon final abandonment and reclamation, BLM will inspect the plugging operations completed by SEECO, Inc. and inspect final reclamation of the site to ensure it has met BLM reclamation standards. Well site is located on private surface and a surface use agreement (SUA) is in place between the private landowner and SEECO, Inc. BLM will respect the private landowner's wishes of surface use in the SUA. If private landowner has no plans for final reclamation, BLM will propose that SEECO, Inc. restore the well site to conditions prior to well construction for final reclamation.

approval. Plugging and reclamation stages are subject to BLM's approval before well site can be released from SEECO, Inc.'s responsibility and liability.

No Action

The only other alternative to the two decisions being considered by BLM is "No Action". The "No Action" decision's result would be to not authorize the two proposed APDs submitted by SEECO, Inc. to BLM. No revenues would be obtained by this action and potential drainage from private wells neighboring the federal lease could occur. The "No Action" alternative would potentially jeopardize BLM's policy to promote oil and gas development as long as it meets the guidelines and regulations set forth by the National Environmental Policy Act of 1969 and other subsequent laws and policies passed by the U.S. Congress.

CH. 3 – DESCRIPTION OF THE AFFECTED ENVIRONMENT

Introduction

Based on review of the elements listed on the SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Minerals, Energy Policy, Surface Protection, Hazardous Material, Soils, Air Quality, Floodplain, Water Quality, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Botanical including T&E Spp., and Wildlife including T&E Spp.

Description of Project Area

This area is situated in the Arkansas Valley Ecoregion in Northern Arkansas. The Arkansas Valley Ecoregion is a synclinal and alluvial valley lying between the Ozark Highlands and the Ouachita Mountains. The Arkansas Valley is, characteristically, diverse and transitional. It generally coincides with the Arkoma Basin that developed as sand and mud were deposited in a depression north of the rising Ouachita Mountains during the Mississippian and Pennsylvanian eras. The Arkansas Valley contains plains, hills, floodplains, terraces, and scattered mountains. It is largely underlain by inter-bedded Pennsylvanian sandstone, shale, and siltstone. Prior to the 19th century, uplands were dominated by a mix of forest, woodland, savanna, and prairie whereas floodplains and lower terraces were covered by bottomland deciduous forest. Today, less rugged upland areas have been cleared for pastureland or “hayland” (land used for the production of hay). Poultry and livestock farming are important land uses.

Environmental Justice

Title IV of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal assistance on the basis of race, color, national origin, age, sex, or disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations.

Cultural Resources

An archaeological survey has been conducted of the general area (Panamerican Consultants, Inc.). No cultural resources had been previously recorded for this location. No evidence of either historical, archeological or occupation sites were discovered by the field investigations.

Native American Religious Concerns

Federally recognized Native Americans have been contacted. Known areas used for religious practices are not present. However, areas that may be considered sacred may be present. These areas would be evidenced by the discovery of unknown human burials or the traditional location for gathering herbs used in religious practice.

Recreation/Visual/Noise Resources

Boating, ATV riding, fishing and hunting are the normal outdoor recreation for this area. Conway County, Arkansas has abundant resources and land (private and government) available to accommodate these types of activities. However, access to these recreational resources can be limited due to remoteness or private property.

The visual resources found in the project area consist of wooded areas, cattle and chicken farms, small house structures, county road to the south, secondary roads, existing well pads, and small ponds/lakes. The existing visual resources in the immediate vicinity of the proposed actions have more of a rural appearance even though of its close proximity to the community of Lost Corner, Arkansas being only about 2 miles away to the west.

Existing sources of noise are limited to petroleum development activities, vehicular traffic on state highways, county roads and other existing secondary roads, and/or private landowners nearby.

Energy Policy/Minerals

As manager of more public land than any other Federal agency, the Bureau of Land Management has a key role in implementing the Energy Policy Act of 2005. The BLM's management of 256 million surface acres and 700 million subsurface acres of mineral estate provides for multiple uses of the land, including energy development. The proposed APDs look to produce gas from approximate depths of 4,300 feet Conway County, Arkansas.

Wastes, Hazardous or Solid

During the on-site inspection, no waste site (hazardous or non-hazardous) being solid or liquid was found in the project area. The private property is utilized for timber production and recreational hunting. From the onsite, nothing in the surrounding area has had signs of being impacted from trash or other waste material.

Soils

The soil types associated with the project area according to the Natural Resource Conservation Service (NRCS) are the Mountainburg and Linker soils.

The Mountainburg series consist of shallow, well drained, moderately rapidly permeable soils that formed in residuum of sandstone. These nearly level to very steep soils are upland ridgetops, plateaus and mountainsides. Slopes range from 1 to 65 percent. The mean annual temperature is about 59 degrees F. Average annual rainfall ranges from 42 to 52 inches. Most areas are in woodland. Vegetation is dominantly mixed hardwood forests of upland oaks, elms, and hickories, or is in mixed hardwood pine-forest. Minor areas have been cleared and are in pasture.

The Linker series consists of moderately deep well drained, moderately permeable soils that formed in loamy residuum weathered from sandstone. These soils are on broad plateaus, mountains and hilltops and benches. Slopes are dominantly 1 to 15 percent but range to 30 percent. Solum thickness and depth to bedrock range from 20 to 40 inches. The reaction ranges from extremely acid to strongly acid throughout, except for surface layers limed. Near the type location, average annual temperature is about 60 degrees F., and average annual precipitation is about 49 inches. Much of the soil is cleared and used for growing cotton, corn, small grains, sorghum, peaches, hay, and pasture. Forests are white, red, post, and blackjack oaks, sweetgum, blackgum, hickory, and shortleaf pine.

Air Quality

The Clean Air Act of 1970, as amended, requires the establishment of National Ambient Air Quality Standards (NAAQS). Both primary and secondary standards are now in effect. Primary standards define levels of air quality that the Administrator of the Environmental Protection Agency (EPA) judges to be necessary, with an adequate margin of safety, to protect the public health. Secondary standards define levels of air quality that the Administrator of the EPA judges to be necessary to protect the public from any known or anticipated adverse effects of a pollutant. The NAAQS pollutants are monitored in Arkansas by the Arkansas Department of Environmental Quality (ADEQ). These include carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, total suspended particulate, particulate matter less than 10 microns, and lead. The area of the proposed well is within standard ranges for air quality. No emissions are present on said property that would be outside the parameters of federal and/or state air emission and quality standards.

Water Quality, Surface/Ground

Surface Water Quality

The Arkansas River Valley Region exhibits distinct seasonal characteristics of its surface waters with zero flows common during summer critical conditions. Peak runoff events from within this region tend to introduce contaminants from the predominantly agricultural land use, which are primarily pasture lands with increasing poultry production. The development of natural gas has resulted in some site-specific water quality degradation. Soil types in much of this area are highly erosive and tend to easily go into colloidal suspension, thus causing long-lasting, high-turbidity values (ADEQ 2008).

Ground Water Quality

Almost all of the surficial aquifers supply water of good to very good quality, ranging from calcium-bicarbonate to sodium-bicarbonate water types. Areas of poor water quality can result from both natural and anthropogenic sources. Natural sources of contamination are typically regional in extent and are related to water-rock interactions. Anthropogenic impacts include both point and nonpoint sources of contamination. Nonpoint sources can result in large areas of impact, although contaminant concentrations typically are significantly lower than point sources, and the contaminants typically represent soluble, non-reactive species. Point sources of contamination often result in elevated levels of contaminants that exceed federal maximum

contaminant levels; however, the extent of contamination normally is confined to a small area, with little to no offsite migration or impact on receptors (ADEQ 2008).

The initial Arkansas Nonpoint Source Pollution Assessment (1988) assessed approximately 4,068 miles of stream and found that 58 percent of the assessed streams were not meeting all designated uses. Limited data for the 79 significant publicly owned lakes indicated no use impairment by nonpoint sources. The 1988 assessment identified agriculture and mining as the primary categories of nonpoint source pollution causing impairments to water bodies of the state (ADEQ 2008).

The 1988 assessment was updated in June 1997, using updated assessment criteria. The 1997 report assessed 8,700 stream miles and indicated that nonpoint source pollution was impacting (but not necessarily impairing) more than 4,100 stream miles. Agricultural impacts were identified as the major cause of impacts on 3,197 stream miles. Other major impacts were related to silviculture activities, road construction/maintenance activities, and unknown sources. The unknown source was mercury contamination of fish tissue (ADEQ 2008).

Wetlands/Riparian Areas/Floodplains

The project area is within the Arkansas River valley. Surrounding the well site is farmland, livestock ranching, and timber production. Drainage is usually north to south. Well site area is on rolling hills topography. This is due to extensive agricultural practices over the years as farmers, ranchers, and timber companies have leveled the area overtime for their needs. The well site is not located within a floodplain.

Invasive/Exotic Species

No exotic species have been observed on the area of interest. However, there are several exotic species with the potential to occur including: Japanese honeysuckle (*Lonicera japonica*), Chinese privet (*Ligustrum sinense*), and sericia lespedeza (*Lespedeza cuneata*).

Special Status Species

Harbor Environmental and Safety conducted a field survey of the project area on August 21, 2012. No federal or state listed species were observed on the survey date. There are four federally listed species with potential to occur in Conway County: Florida Panther (*Felis concolor coryi*) listed as endangered, Interior least tern (*Sterna antillarum athalassos*) listed as endangered, piping plover (*Charadrius melodus*), listed as endangered and the bald eagle (*Haliaeetus leucocephalus*), delisted in 2007 but protected under the Bald and Golden Eagle Protection Act of 1940, as amended in 1962. Florida panther are considered extirpated from their historic range in Arkansas. Most least terns in Arkansas are passing migrants, but from May through September, a few nest in small colonies on exposed sandbars in the Arkansas, Mississippi and White Rivers. Although this project occurs in the Arkansas River drainage, no suitable habitat exists at the project site. Some piping plovers migrate through Arkansas between wintering grounds on the Gulf Coast and breeding habitat in the northern Great Plains and the Great Lakes region. This species typically utilizes the sand bars associated with major rivers and reservoirs. No suitable habitat exists at this upland site. Bald eagles in Arkansas are associated

with larger bodies of water, such as lakes and reservoirs, and typically utilize large trees near these waters for nesting and roosting. The upland project site does not contain suitable habitat for bald eagle foraging or nesting.

Table 1 presents the species listed by the U.S. Fish and Wildlife Service as known to occur in Conway County, Arkansas. The table also presents a summary of effects from the proposed construction activities on those species. Specific information regarding habitat requirements and rationale for those determinations are provided below under each species section. Table 2 presents the Arkansas Natural Heritage Commission rare species list.

Federally Listed Species

Table 1: Summary of effects to federal listed species.

Species	Federal Status	Determination	Rationale
Florida Panther (<i>Felis concolor coryi</i>)	Endangered	No Effect	No suitable habitat within project area.
Piping Plover (<i>Charadrius melodus</i>)	Threatened	No Effect	No suitable habitat within project area.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Delisted (5 year monitoring period)	No Effect	No suitable habitat within project area.
Interior Least Tern (<i>Sterna antillarum</i>)	Endangered	No Effect	No suitable habitat within project area.

Florida Panther (*Felis concolor coryi*) (Endangered)

The Florida panther generally occurs in heavily forested areas in lowlands and swamps, also upland forests in some parts of their range. Habitats include tropical hammocks, pine flatwoods, cabbage palm forests, mixed swamp, cypress swamp, live oak hammocks, sawgrass marshes and Brazilian pepper thickets. Due to large home ranges, this species depends on large contiguous blocks of wooded habitat though interspersed fields and early successional habitats may be beneficial due to their positive effect on prey populations. Day use sites typically are dense patches of saw palmetto surrounded by swamp, pine flatwoods, or hammock.

This species was historically present throughout Arkansas, but was extirpated around 1920. The Florida panther is currently only known to exist in Florida. Oil and gas drilling activity is high in the area surrounding the proposed site, therefore cleared areas for well pads and access roads are prevalent surrounding this site. This species is highly unlikely to occur on the project site because it is outside of its' current range and is not within a heavily forested area.

Piping Plover (*Charadrius melodus*) (Threatened)

The piping plover is a shorebird species which nests in the Great Plains and the Great Lakes region, and migrates south to the Gulf coast to over winter. Piping plovers occur along large lakes and rivers throughout Arkansas primarily during migration. Piping plovers feed on

invertebrates by probing along mudflats and sand flats. There are no large lakes or rivers near the proposed site therefore suitable habitat for this species is not present.

Bald Eagle (*Haliaeetus leucocephalus*) (delisted – monitoring program)

The bald eagle was delisted in 2007 due to recovery. A five year monitoring program has been established to ensure that bald eagle populations are stable, and that delisting continues to be appropriate for this species. Bald eagles will remain protected under the Bald and Golden Eagle Protection Act, as well as the Migratory Bird Treaty Act. Bald eagles are associated with large inland lakes, large rivers and coastal waters and use large old growth pine, bald cypress and some oak species, usually within ¼ mile of inland lakes and large rivers for nesting and loafing. There are no large lakes or rivers near the proposed site therefore suitable habitat for this species is not present.

Interior Least Tern (*Sterna antillarum*) (Endangered)

The interior least tern is a migratory shorebird species which breeds, nests, and rears young on non-vegetated portions of sand bars and beaches along major rivers and reservoirs. Current USFWS guidance recommends that no activity be conducted within 650' of a nesting colony; and that construction activities within 650-ft. of a nesting colony be conducted outside of the nesting season (May 15 through August 31) to avoid adverse effects to the species. There are no large reservoirs or rivers near the proposed site therefore suitable habitat for this species is not present.

State Listed Species

The Arkansas Natural Heritage Commission (ANHC) has identified numerous sensitive invertebrate, vertebrate and plant species in Conway County. Many of those species occur in rare or unique habitats such as prairies, sandstone glades, rocky outcroppings and rocky riverine edge habitat. The southern pine forest habitat within the project area does not provide suitable habitat for many of the state listed species. Table 2 presents a list of rare species located in Conway County, AR, as determined by the ANHC.

Table 2. Arkansas Natural Heritage Program rare species list.

Name	Status		Rank	
	Federal	State	Global	State
Animals - Invertebrates				
<u>Cicindela cursitans</u> (ant-like tiger beetle)	-	INV	G4	S2S3
<u>Cicindela macra</u> (sandy stream tiger beetle)	-	INV	G5	S2S3
<u>Lasmigona costata</u> (flutedshell)	-	INV	G5	S3
<u>Lirceus bicuspidatus</u> (an isopod)	-	INV	G3Q	S2
<u>Speyeria diana</u> (Diana)	-	INV	G3G4	S2S3
<u>Toxolasma lividus</u> (purple lilliput)	-	INV	G3	S2
<u>Villosa lienosa</u> (little spectaclecase)	-	INV	G5	S3
Animals - Vertebrates				
<u>Ambystoma annulatum</u> (ringed salamander)	-	INV	G4	S3
<u>Cemophora coccinea copei</u> (northern scarlet snake)	-	INV	G5T5	S3
<u>Chrysemys dorsalis</u> (southern painted turtle)	-	INV	G5	S3
<u>Crotalus atrox</u> (western diamondback rattlesnake)	-	INV	G5	S2
<u>Crotaphytus collaris</u> (eastern collared lizard)	-	INV	G5	S3

Name	Status		Rank	
	Federal	State	Global	State
<i>Haliaeetus leucocephalus</i> (Bald Eagle)	-	INV	G5	S2B,S4N
<i>Hyla avivoca</i> (bird-voiced treefrog)	-	INV	G5	S3
<i>Lithobates areolatus circulosus</i> (northern crawfish frog)	-	INV	G4T4	S2
<i>Myotis austroriparius</i> (southeastern myotis)	-	INV	G3G4	S3
<i>Pseudacris streckeri</i> (Strecker's chorus frog)	-	INV	G5T5	S2
<i>Spea bombifrons</i> (plains spadefoot)	-	INV	G5	S1
<i>Sterna antillarum athalassos</i> (Interior Least Tern)	LE	INV	G4T2Q	S2B
<i>Thryomanes bewickii</i> (Bewick's Wren)	-	INV	G5	S2B,S3N
Plants - Vascular				
<i>Amorpha ouachitensis</i> (Ouachita indigo-bush)	-	INV	G3Q	S3
<i>Dalea lanata</i> var. <i>lanata</i> (woolly prairie-clover)	-	INV	G5TNR	S2S3
<i>Elymus churchii</i> (Church's wild rye)	-	INV	G2G3	S2?
<i>Eriocaulon koernickianum</i> (small-head pipewort)	-	SE	G2	S2
<i>Erythronium mesochoreum</i> (prairie trout-lily)	-	INV	G4G5	S1S2
<i>Eustoma exaltatum</i> (catchfly prairie-gentian)	-	INV	G5	S2
<i>Heliotropium convolvulaceum</i> (phlox heliotrope)	-	INV	G5	S2
<i>Liatris compacta</i> (Ouachita blazing-star)	-	INV	G3	S3
<i>Neviusia alabamensis</i> (Alabama snow-wreath)	-	ST	G2	S1S2
<i>Platanthera flava</i> (southern tubercled orchid)	-	ST	G4?	S2S3
<i>Ranunculus flabellaris</i> (yellow water crowfoot)	-	INV	G5	S3
<i>Schoenoplectus californicus</i> (California bulrush)	-	INV	G5	S1S2
<i>Selaginella arenicola</i> ssp. <i>riddellii</i> (Riddell's spike-moss)	-	INV	G4T4	S3
<i>Tradescantia paludosa</i> (confederate spiderwort)	-	INV	G4?Q	S1S2
<i>Trichomanes petersii</i> (dwarf bristle fern)	-	ST	G4G5	S2
<i>Trifolium carolinianum</i> (Carolina clover)	-	INV	G5	S1?
Special Elements - Natural Communities				
Central Interior Highlands Dry Acidic Glade and Barrens	-	INV	GNR	SNR
Ozark-Ouachita Dry-Mesic Oak Forest	-	INV	GNR	SNR
South-Central Interior Large Floodplain	-	INV	GNR	SNR
Special Elements - Other				
Geological feature	-	INV	GNR	SNR

Wildlife and Vegetation

The site is located in a relatively level area east of Money Mountain, with a mile drop east towards Sheepskin Creek. The site is almost exclusively loblolly pine (*Pinus taeda*), with a midstory of sweetgum (*Liquidambar styraciflua*) and winged elm (*Ulmus alata*) shrubs. Oil and gas drilling activity is high in the area surrounding the proposed site, therefore cleared areas for well pads and access roads are prevalent surrounding this site. Wildlife activity is likely limited on the proposed site due to the homogenous pine forest and large acreages of surrounding cleared areas. However species likely to occur include: red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), eastern cottontail (*Sylvilagus floridanus*), coyote

(*Canis latrans*), gray squirrel (*Sciurus carolinensis*), northern raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), opossum (*Didelphus virginiana*), rat snake (*Elaphe sp.*), garter snake (*Thamnophis sp.*), blue runner (*Lampropeltis sp.*), copperhead (*Agkistrodon contortrix*), box turtle (*Terrapene ornata ornata*), monarch butterfly (*Danaus plexippus*), dragonflies (*Aeshna spp.*), Tabinid flies and various isopods and arachnids.

Migratory Bird Species of Concern

No migratory bird species of concern were observed on the date surveyed. Migratory bird species of concern are unlikely to occur at the project area due to unsuitable homogenous pine forest habitat.

Ch. 4 - ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

Introduction

This chapter assesses potential environmental consequences associated with direct, indirect, and cumulative effects of the Proposed Action and alternatives.

Based on review of the elements listed on the SSFO NEPA Form and consideration of the Purpose and Need statement prepared for this EA, the following elements will be addressed in this EA: Environmental Justice, Cultural/Paleontology, Native American Religious Concerns, Recreation, Visual Resources, Energy Policy, Minerals, Surface Protection, Hazardous Material, Soils, Air Quality, Water Quality, Floodplain, Wetlands/Riparian Zones, Invasive & Non-Native Spp., Botanical including T&E Spp., and Wildlife including T&E Spp.

Environmental Justice

No adverse human health and environmental effects will be anticipated that would encompass or affect minority and low-income populations in the area surrounding the well sites discussed in this EA.

Cultural Resources:

Direct and indirect impacts to known Historic Properties listed, eligible for listing, or potentially eligible for listing on the National Register of Historic Places will not occur with this action as proposed. However, direct and indirect impacts to currently unknown sites may occur. Impacts may include destruction by ground disturbing activities associated with the military mission of the Arkansas National Guard, or the movement of surface artifacts through degradation processes. Direct and indirect impacts could lead to the total destruction of a site. If an unknown site is discovered through any aspect of this undertaking, and if activities causing disturbance to the site would cease until additional consultation among the SMA, the operator, the SHPO, Native Americans, other interested persons/agencies and the BLM occurs, adverse impacts to any potentially significant sites could be mitigated.

Native American Religious Concerns:

Direct and indirect impacts to known places used by Native Americans for religious activities will not occur, because none is known. However, if such a place is discovered or a place of religious importance such as human remains, through activities associated with this action, and the condition of approval is followed, impacts would be mitigated.

Recreation/Visual/Noise Resources

The proposed well site for both APDs is not near areas used for recreational purposes other than hunting from private landowner, nor is either well site visible from any residences. Residences in the area are accustomed to seeing oil and gas activity with no known objections to BLM of such activity. Because hunting is regulated by the state of Arkansas and wild game in Logan County is plentiful, hunting activities occur only at certain times of the year for each game species by state law. Hunting prohibitions for the well sites would be a short-term, direct impact while drilling but long-term impacts are not expected. Cumulative impacts to hunting wild game in this area should not occur.

Noise generation from well operations, would be associated with vehicle movements and the operation of production equipment. Impacts from noise on people and wildlife species inhabiting the areas are expected to be minimal and of occasional, short duration in case of required maintenance onsite.

Energy Policy/Minerals

Approving SEECO, Inc.'s wells would be keeping in line with BLM's responsibility for energy development and management. Approving the APDs will ensure that the U.S. government resources are not drained from private drilling in the surrounding area and that production of natural gas provides the U.S. government with appropriate royalties. Energy Policy Act of 2005 – Sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Title III: Oil and Gas

Subtitle B: Natural Gas

(Sec. 313) Designates FERC as the lead agency for coordinating federal permits and other authorizations and compliance with the National Environmental Policy Act of 1969 (NEPA). Directs FERC to establish a schedule for all federal authorizations.

Subtitle C: Production

(Sec. 322) Amends the Safe Drinking Water Act to exclude from the definition of underground injection the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil or gas, or geothermal production activities.

Subtitle F: Access to Federal Lands

(Sec. 361) Requires the Secretary of the Interior to perform an internal review of current federal onshore oil and gas leasing and permitting practices.

(Sec. 364) Amends the Energy Act of 2000 to revise the requirement that the Secretary of the Interior, when inventorying all onshore federal lands, identify impediments or restrictions upon oil and gas development.

(Sec. 366) Amends the Mineral Leasing Act to set deadlines for an expedited permit application process.

(Sec. 368) Prescribes guidelines governing energy right-of-way corridors on federal land.

Directs the Secretaries of Agriculture, of Commerce, of Defense, of Energy, and of the Interior (the Secretaries), in consultation with FERC, states, tribal or local government entities, affected utility industries, and other interested persons, are directed to consult with each other and to: (1) designate corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on federal land in the 11 contiguous Western States; (2) incorporate the designated corridors into the relevant energy land use and resource management or equivalent plans; and (3) ensure that additional corridors are promptly identified and designated.

(Sec. 371) Amends the Mineral Leasing Act to cite conditions for the reinstatement of oil and gas leases terminated for certain failure to pay rentals.

Subtitle G: Miscellaneous

(Sec. 390) States that action by the Secretary of the Interior in managing the public lands, or the Secretary of Agriculture in managing National Forest System Lands, with respect to certain oil or gas drilling related activities shall be subject to rebuttable presumption that the use of a categorical exclusion under NEPA would apply if the activity is conducted pursuant to the Mineral Leasing Act for the purpose of exploration or development of oil or gas.

Wastes, Hazardous or Solid

With approval of an APD , the operations for drilling would typically generate the following wastes; (a) discharge of drilling fluids and cuttings into the reserve pits, (b) waste generated from used lubrication oils and hydraulic fluids, some of which may be characteristic of, or listed as, hazardous waste, and (c) service company wastes as well as some general trash. Certain wastes unique to the exploration, development, or production of crude oil and natural gas have been exempted from federal regulation as hazardous waste under Subtitle C of the Resource Conservation and Recovery Act (RCRA) of 1976. The exempt waste must be intrinsic to exploration, development, or production activities and not generated as a part of a transportation or manufacturing operation. The drilling fluids, drill cuttings, and the produced waters are classified as a RCRA exempt waste, and the proposed action would not introduce any hazardous substance into the environment, if they are managed and disposed of properly under federal and state waste management regulations and guidelines. No cumulative impacts are anticipated to occur.

Soils

The action of constructing a well pad would have a direct, adverse impact on soils. These impacts would be limited to those areas where vegetation is removed and construction occurs.

The impacts would be of two types: (1) physical removal, leveling and mixing of surface soils and (2) soil compaction. The first impact would be caused by site preparation for construction of the well pad, related structures, road construction, flow line construction, and wind and water erosion. This would cause a mixing of soil horizons and cause a short-term loss of soil productivity. The second impact, soil compaction, would be caused by vehicle and machinery travel. Compaction decreases air and water infiltration into the soil profile thus reducing soil productivity. Prompt cultivation and re-vegetation will be specified in BLM Surface Use Conditions of Approval (SUCOA) to minimize the loss of soil productivity. This would also prevent an increase of siltation into drainages or streams from run-off. Most disturbances have already taken place due to both wells pads are in production. Any further soil impacts would be limited to maintenance of the well site and vehicle traffic. No cumulative impacts would be anticipated to result from this action.

Air Quality

Air quality would be slightly affected locally by exploration, development and abandonment. Dust created during road and well site construction would increase suspended particulates in the air. However, this impact would be localized to the immediate vicinity of the well sites and flow line construction and would be of short duration. Dust from traffic and smoke and other emissions from vehicles and stationary engines used in drilling operations and flow line construction could increase air pollutants but again, these impacts would be localized and of short duration. Cumulative impacts to air quality should not occur with approval of this action.

Wetlands/Riparian Areas/Floodplains:

Any disturbances from drilling activities would avoid contamination and sedimentation into surrounding drains, creeks, streams, rivers, wetlands and/or springs. No drains or creeks will be directly impacted by any additional disturbances or construction of the well pad and access road.

Water Quality, Surface/Ground:

Waste fluids associated with oil and gas operations could potentially have an adverse impact on surface and ground waters if allowed to leach into surface and ground water, possibly degrading water quality. SEECO, Inc. informed BLM and is stated in each APD that all drilling fluids will be contained in tanks due to SEECO, Inc. using a "closed-loop" system and those tanks will be trucked off location and the fluid disposed of at an appropriate facility. No cumulative impacts are anticipated as a result of this action.

Invasive/Exotic Species

Surface disturbances can result in increased occurrence of invasive and exotic species. The Natural Resource Conservation Service (NRCS) provides guidelines for mulching, preparation, and planting of vegetation during site restoration (NRCS 1999). Native species are preferred for site restoration. Because of unreliable and/or slow germination and establishment rates of native species, however, site restoration typically is accomplished with a mixture of native and nonnative species. The nonnative species are quickly established to provide erosion control and

wildlife support and are slowly replaced by native species (both by species that have been planted and by those recruited).

Regarding invasive species, SEECO, Inc. will apply BLM's recommended use of native grasses for re-vegetation efforts and requires post-construction monitoring for invasive species.

Special Status Species

No special status species are known to occur or expected to occur at the proposed site due to a lack of suitable habitat. BLM has determined that the proposed lease would have no effect on special status species. According to guidelines detailed in the U.S. Fish and Wildlife (FWS) Section 7 Consultation Handbook, consultation is not required for projects in which special status, threatened, or endangered species are not known to be in the project area and suitable habitat is not available.

Wildlife and Vegetation

Wildlife use of proposed project site has more than likely been altered by previously being cleared and converted to pine. In addition, the number of cleared acreage spots surrounding the proposed site for other oil or gas projects has likely either diminished less mobile species populations, such as reptiles or amphibians, in the area or forced more mobile species such as birds and mammals to move elsewhere. Wildlife use of the site after the well is put into production would vary depending on vegetation and succession stage. Once put into production the well pad would be reduced in size and the reserve pit area would be graded and seeded. The producing well site would be subject to regular maintenance and inspection. Wildlife use of the site is dependent on the adequacy of the restoration.

No Action

There are no environmental impacts associated with the "No Action Alternative". However, selection of that alternative would result in the loss of potential revenue from the proposed development of the gas wells. Future drilling activities from private wells in the area could pose future issues of drainage of federal minerals. "No Action" decision would not allow the BLM to protect federal mineral interests from drainage of private wells around the BLM lease area.

Cumulative Impacts

Oil and Gas development does create impact that is cumulative as more development occurs. The cumulative impacts currently, though, are negligible since new disturbance from oil and gas development is minimal. The well site could have the possibility for more additional wells including the two proposed wells in this EA depending on SEECO's future production plans. Having multiple wells on one pad will help curve cumulative impacts from oil and gas development. When a well site is no longer producing, it is plugged, abandoned, and surface is reclaimed, so no cumulative impacts are expected to occur due to oil and gas production from the well.

CH. 5 - LIST OF PERSONS CONSULTED

List of Preparers

Specialist Name

Title, Organization

Brian Kennedy

Physical Scientist, BLM

John Sullivan

Archeologist, BLM

Gary Taylor

Planning and Environmental Coordinator, BLM

Alison McCartney

Natural Resource Specialist

Faye Winters

Wildlife Biologist, BLM

APPENDIX A

Maps

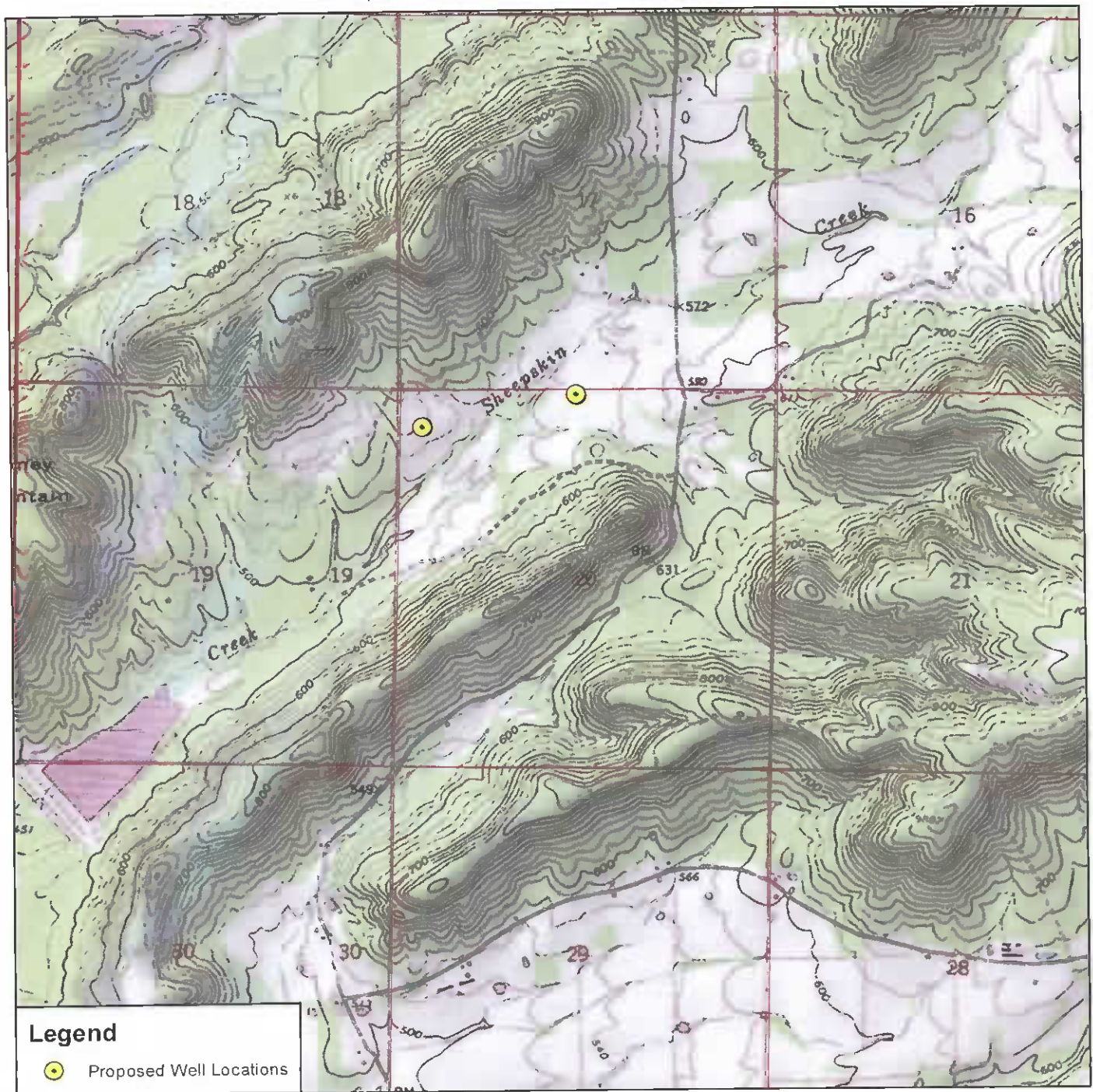
Proposed Federal Oil & Gas Well

Company: SEECO, Inc.

Well Names: Salinas Reyes 9-15 #5-20H29, #6-20H29, #7-20H29, and #8-20H29

Conway County, Arkansas

T. 9N, R. 15W, Sec. 20; 5th Principal Meridian



0 1,000 2,000 4,000 6,000 8,000 Feet 1:24,000

Proposed Salinas Reyes 9-15 #5-20H29 Well:
(T9N, R15W, Sec 20 - 1421' FSL & 957' FWL)

Proposed Salinas Reyes 9-15 #6-20H29 Well:
(T9N, R15W, Sec 20 - 1442' FSL & 977' FWL)

Proposed Salinas Reyes 9-15 #7-20H29 Well:
(T9N, R15W, Sec 20 - 1442' FSL & 977' FWL)

Proposed Salinas Reyes 9-15 #8-20H29 Well:
(T9N, R15W, Sec 20 - 1442' FSL & 977' FWL)

U.S. Department of the Interior
Bureau of Land Management
Southeastern States Field Office
Jackson, Mississippi

This map contains portions of the following USGS 1:24,000
Topographic Quadrangle: Formosa

No warranty is made by the Bureau of Land Management as to the accuracy, reliability,
or completeness of this data for individual use or aggregate use with other data



APPENDIX B

Surface Use Conditions of Approval

Bureau of Land Management's
Surface Use Conditions of Approval (SUCOA)

**Section 20, T. 9 N., R. 15 W., 5th Principal Meridian, Conway County, Arkansas on
BLM Lease ARES-56458**

Wells: Salinas Reyes 9-15 #7 and #8

1. If previously unknown sites of religious activities and previously unknown Native American burials are discovered during any ground disturbing activity or any part of this action, these activities will cease so that consultation with appropriate Native American groups will take place. The Authorizing Officer will tell the operator within five (5) working days when or if work may proceed.
2. The operator will avoid known cultural/historic sites during all construction and will be held responsible for informing all persons working at the drill site that they are subject to prosecution for knowingly disturbing human remains, historic or archaeological sites and for collecting artifacts (Archaeological Resources Protection Act of 1979, as amended [16 United States Code 470] [43 CFR 7.4]). If human remains, historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials and contact the BLM, the landowner, and the State Historic Preservation Officer (SHPO) (36 CFR 800.11(b)(3)). Within five working days, the BLM, in consultation with the landowner and the SHPO, will inform the operator as to options available and how/if operation in the area of the human remains, historic or archaeological material may proceed. In addition, if a previously unknown site is discovered, consultation with the Advisory Council on Historic Preservation and Native American groups may also be conducted before operations may proceed.
3. The operator is required to take necessary measures to ensure that the final graded slopes are stabilized and to prevent the movement of soil from the pad area for the life of the project. Because of the short term nature of the project and to allow for complete decomposition, only all organic fibers including both the filler and web will be used to allow for complete decomposition. This could include the use of natural matting (jute, coconut fiber, etc.) on steeper slopes and/or use of silt fence at the toe of the slope, or additional mulching. No plastic or inorganic netting will be permitted. Silt fences and other sediment control objects must be maintained throughout the construction and initial phases of drilling and production. After seeding of natural grasses has taken hold to stop erosion of sediments off the pad location, such sediment control devices can be removed.
4. Any construction activities should, by using preventative measures, avoid drainage of fluids, sediments, and/or other contaminants from the well pad into any nearby water bodies or natural drainage areas off of the well pad location.

5. Equipment, fuels, and other chemicals will be properly stored to minimize the potential for spills to enter surface waters. Secondary containment will be provided for all containers stored on site.
6. For safety and protection to the surface and surrounding area, operator must keep the area clean of trash and other debris as much as possible to avoid damaging or contaminating the human and environmental health surrounding the well pad location.
7. No aerial application of herbicides or pesticides will be permitted. Any ground application of herbicides or other pesticides, sterilants, or adjuvants within 150 feet of listed species or habitat will require site-specific control measures developed in coordination or formal consultation with USFWS.
8. To prevent birds and bats from entering or nesting in or on open vent stack equipment, open vent stack equipment, such as heater-treaters, separators, and dehydrator units, will be designed and constructed to prevent birds and bats from entering or nesting in or on such units and, to the extent practical, to discourage birds from perching on the stacks. Installing cone-shaped mesh covers on all open vents is one suggested method. Flat mesh covers are not expected to discourage perching and will not be acceptable.
9. All power-lines must be built to protect raptors and other migratory birds, including bald eagles, from accidental electrocution, using methods detailed by the Avian Power Line Interaction Committee (APLIC 2006)
10. Any reserve pit that is not closed within 10 days after a well is completed and that contains water must be netted or covered with floating balls, or another method must be used to exclude migratory birds.
11. Speed on all operator-constructed and maintained (non-public) roads is advised to be around 25 miles per hour or less to minimize the chance of a collision with migratory birds or other federally listed wildlife species. Slower speeds allow for more reaction time to reduce potential vehicular injuries to wildlife. *Note: BLM can only advise of slower speeds.*
12. Disturbed lands will be re-contoured back to conform to existing undisturbed topography. No depressions will be left that trap water or form ponds. The operator will be responsible for re-contouring of any subsidence areas that may develop from after closing of the pit.

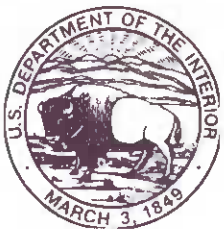
13. To discourage the spread of invasive, non-native plants it is recommended that native cover plants in seeding mixtures be used during reclamation activities. Final seed mixtures will be formulated in consultation with the private landowner. Post-construction monitoring for cogon grass and other invasive plant species should be conducted to ensure early detection and control. If invasive species are found, the proper control techniques should be used to either eradicate the species from the area or minimize its spread to other areas. If cogon grass is found on site, equipment should be washed before exiting the site to prevent the spread of this highly invasive species to other locations.

Regarding invasive species, SEECO, Inc. will apply BLM's recommended use of native grasses for re-vegetation efforts. Before interim and final reclamation of the well site, SEECO, Inc. will contact BLM for recommended native seed mixtures to be planted. BLM will also require post-construction monitoring for invasive species.

14. Phased reclamation plans will be submitted to BLM for approval prior to abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. BLM will inspect those reclamation actions submitted by the operator to ensure that the operator has met all reclamation goals of the BLM and surface owner. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval by BLM. Final Abandonment Notice will be filed at the end awaiting BLM's approval of final reclamation. After BLM's approval of final reclamation, operator can be relinquished of its obligations and responsibilities to the well site.

APPENDIX C

Correspondence



IN REPLY REFER TO

United States Department of the Interior

FISH AND WILDLIFE SERVICE

110 S. Amity Road, Suite 300

Conway, Arkansas 72032

Tel.: 501/513-4470 Fax: 501/513-4480



October 15, 2012

RECEIVED

Reference: TA0076

Brian Kennedy
Bureau of Land Management
411 Briarwood Drive
Suite 404
Jackson, MS 39206

BUREAU OF LAND MANAGEMENT
SSFO

Dear Mr. Kennedy:


The U.S. Fish and Wildlife Service (Service) has reviewed the information supplied in your letter dated October 5, 2012, regarding the proposed drilling of four natural gas wells near the City of Lost Corner, Conway County, Arkansas. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The following federally listed endangered and threatened species are known to occur in this region: Florida panther (*Felis concolor coryi*), interior least tern (*Sterna antillarum athalassos*), and piping plover (*Charadrius melodus*). In addition, the federally protected Bald eagle (*Haliaeetus leucocephalus*) is also known to occur in this region.

The comments herein are for the sole purpose of providing technical assistance to the action agency or for individual pre-project planning assistance. These comments and opinions should not be misconstrued as an "effect determination" or considered as concurrence with any proceeding determination(s) by the action agency in accordance with Section 7 of the ESA. These comments do not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, a finding concurrence letter, etc.) from the Service, both lethal and nonlethal "take" of protected species are in violation of the ESA.

We appreciate your interest in the conservation of endangered species. If you have any questions, please contact the Arkansas Ecological Services Staff at (501) 513-4487.

Sincerely,


Jim Boggs
Project Leader



The Department of
**Arkansas
Heritage**

Mike Beebe
Governor

Cathie Matthews
Director

Arkansas Arts Council

Arkansas Natural Heritage
Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum



Arkansas Historic
Preservation Program

323 Center Street, Suite 1500

Little Rock, AR 72201

(501) 324-9880

fax: (501) 324-9184

td: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.org

An Equal Opportunity Employer



November 29, 2012

Mr. Duane Winters
Assistant Field Manager
Division of Lands and Renewable Resources
Bureau of Land Management
Southeastern States Field Office
411 Briarwood Drive, Suite 404
Jackson, Mississippi 39206

RECEIVED

DEC 2012

**BUREAU OF LAND MANAGEMENT
SSFO**

Re: Conway County – General
Section 106 Review – BLM
Draft Report Titled “*SWN Cultural Resources Reports Volume 50:
Phase I Survey of the Salinas Reyes 9-15 6-20H29 Well Pad, Conway
County, Arkansas*”
PCI Report Number 32244
AHPP Tracking Number 84729

Dear Mr Winters:

The staff of the Arkansas Historic Preservation Program has reviewed the above-referenced cultural resources report. This report documents fieldwork for a small well pad location and is acceptable. Based on the information in this report, we concur that the proposed undertaking will have no effect on historic properties.

Thank you for the opportunity to review this undertaking. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Eric Gilliland of my staff at 501-324-9880.

Sincerely,

Frances McSwain

Frances McSwain

Deputy State Historic Preservation Officer

cc: Dr. Richard Allen, Cherokee Nation of Oklahoma
Mr. C. Andrew Buchner, Panamerican Consultants, Inc.
Dr. Ann Early, Arkansas Archeological Survey
Dr. Andrea A. Hunter, Osage Nation
Ms. Jean Ann Lambert, Quapaw Tribe of Oklahoma
Ms. Lisa LaRue-Baker, United Keetoowah Band of Cherokee Indians



Approved by the BLM National Office

Permit to Drill SEECO, Inc., Salina Reyes, Conway County, MS

Lisa LaRue-Baker - UKB THPO <ukbthpo-larue@yahoo.com>

Thu, Dec 6, 2012 at 11:13 AM

Reply-To: ukbthpo-larue@yahoo.com

To: john_m_sullivan@blm.gov

Cc: Istapleton@unitedkeetoowahband.org

The United Keetoowah Band of Cherokee Indians in Oklahoma has reviewed your projects for Section 106 NHPA purposes, and cultural resources. At this time, we have no objection or comment. However, if any human remains or funerary items are inadvertently discovered, please cease all work and contact us immediately.

Also, please change my name on your records for mailing, see below. Thanks!

Lisa LaRue-Baker

Acting THPO

United Keetoowah Band of Cherokee Indians in Oklahoma

PO Box 746

Tahlequah, OK 74465

c 918.822.1952 f 918.458.6889

ukbthpo-larue@yahoo.com

BIOLOGICAL ASSESSMENT

Site Name: Salinas Reyes 9-15 8-20H29 Location

Lat/Long (~ center of well pad)	Lat: 35° 24' 49.4"N Long: 92° 37' 13.9"W Approximate Elevation of Site: 568 ft
Project Owner:	Southwestern Energy Company 1000 SWN Drive Conway, Arkansas 72032
Contact Information:	Nick Sartain (501) 548-3728 nick_sartain@swn.com
General Description of the Tract	
The Salinas Reyes 9-15 8-20H29 location is located west of County Highway 39 in Section 20 T9N R15W. The site is located northwest of Center Ridge in Conway County, approximately 2.9 miles north of Hwy 124. Drainage from the site flows to Sheepskin Creek approximately 0.12 miles southeast of the site.	
The well pad is located on pine timber acreage. The general topography of the location slopes southeast towards Sheepskin Creek.	
Dominant Plant Communities/Habitats	
The tract is comprised of Southern Pines ranging from 6 to 18 inches in diameter.	
Endangered, Threatened, Special Concern, Migratory Bird, and Invasive Species Observed	
None were observed during the site visit conducted by Harbor Environmental on August 20, 2012. Potential invasive plant species that could occur in the area include: Japanese honeysuckle, shrubby lespedeza, tall fescue, Chinese privet, sericea lespedeza, Japanese privet, mimosa, kudzu, chinaberry and johnsongrass.	
Migratory Bird and Exotic Species With the Potential to Occur	
Very little migratory bird habitat makes it unlikely that any would occur on the tract.	
Common Animal Species	
Animals likely to be found include the white-tailed deer, turkey, rabbit, raccoon, coyote, squirrel, and various species of reptiles and amphibians.	
Man-Made Features Onsite	
The Salinas Reyes 9-15 8-20H29 well pad and lease road will be constructed on the tract. No man-made features were observed during the site visit.	
Wetland Delineation	
No wetland delineation was performed. No wet areas, indication of wetland features or plant life were noted during inspection.	

Threatened and Endangered Species for Conway County, Arkansas

Listed Species	Description of Species and Suitable Habitat
<p>Florida Panther (<i>Felis concolor coryi</i>) ENDANGERED</p>	<p>Generally occurs in heavily forested areas in lowlands and swamps, also upland forests in some parts of range; areas with adequate deer or wild hog population. Habitats include tropical hammocks, pine flatwoods, cabbage palm forests, mixed swamp, cypress swamp, live oak hammocks, sawgrass marshes, and Brazilian pepper thickets; depends on large contiguous blocks of wooded habitat, though interspersed fields and early successional habitats may be beneficial through their positive effect on prey populations; day-use sites typically are dense patches of saw palmetto surrounded by swamp, pine flatwoods, or hammock.</p> <p>The species was historically present throughout Arkansas, but was extirpated around 1920. This means local extinction where a species (or other taxon) ceases to exist in the chosen area of study, but still exists elsewhere. The Florida Panther is currently only known to exist in Florida.</p> <p>The Florida Panther is unlikely to occur on the tract due to the lack of heavily forested area.</p>
<p>Interior Least Tern (<i>Sterna antillarum athalassos</i>) ENDANGERED</p>	<p>Most least terns in our state are passing migrants, but from May through September, a few nest in small colonies on exposed sandbars in the Arkansas, Mississippi and White rivers. One to three eggs are laid directly on the sand. The camouflaged eggs and chicks are hard to find, but it's not difficult to detect a nesting colony since intruders are besieged by screeching, dive-bombing adults.</p> <p>Arkansas nesting habitat is threatened by manipulations of river flows. Reduced flows allow encroachment of woody vegetation, eliminating some bare sandbars. High flows during nesting wash away eggs and drown chicks. Nests are also lost to dredging operations, trampling by cattle, all-terrain vehicle use, storms and predation.</p> <p>The Interior Least Tern is unlikely to occur on the tract because of the distance to the Arkansas River or other significant water bodies.</p>
<p>Bald Eagle (<i>Haliaeetus leucocephalus</i>) No longer listed</p> <p>Protected under the Bald and Golden Eagle Protection Act BGEPA.</p>	<p>Bald eagles live near rivers, lakes, and marshes where they can find fish, their staple food. Bald eagles will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion.</p> <p>Bald eagles require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts. In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering.</p> <p>Eagles choose the tops of large trees to build nests, which they typically use and enlarge each year. Nests may reach 10 feet across and weigh a half ton. They may also have one or more alternate nests within their breeding territory. In treeless regions, they may also nest in cliffs or on the ground. The birds travel great distances but usually return to breeding grounds within 100 miles of the place where they were raised.</p> <p>The Bald Eagle is unlikely to occur on the tract due to the distance to large water bodies.</p>

Source: US and Arkansas Game and Fish website
Nature Serve Explorer website

ATTACHMENT 18: BIOLOGICAL SURVEY

Salinas Reyes 9-15 8-20H29

Site Photographs



Photograph 1



Photograph 2

Area of Interest (AOI)

Soil Map

Soil Data Explorer

Shopping Cart (Free)

Search

Map Unit Legend

Conway County, Arkansas (AR029)				
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
16	Under fine sandy loam, 3 to 8 percent slopes	4.3	69.7%	
23	Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes	1.2	18.7%	
24	Mountainburg stony fine sandy loam, 12 to 40 percent slopes	0.7	11.6%	
Totals for Area of Interest		6.2	100.0%	

Legend

Soil Map

[Print](#) [Download](#) [Full Screen](#) [Zoom In](#) [Zoom Out](#) [Reset](#) [Close](#) [Link to scale](#)



Warning: Soil Map may not be valid at this scale.

Map Unit Description: Linker fine sandy loam, 3 to 8 percent slopes—Conway County, Arkansas

Conway County, Arkansas

16—Linker fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 500 to 2,800 feet

Mean annual precipitation: 26 to 57 inches

Mean annual air temperature: 49 to 73 degrees F

Frost-free period: 205 to 265 days

Map Unit Composition

Linker and similar soils: 100 percent

Description of Linker

Setting

Landform: Hills

Landform position (three-dimensional): Head slope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy residuum weathered from sandstone

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 5.2 inches)

Interpretive groups

Land capability (nonirrigated): 3e

Typical profile

0 to 4 inches: Fine sandy loam

4 to 8 inches: Fine sandy loam

8 to 28 inches: Sandy clay loam

28 to 38 inches: Gravelly sandy clay loam

38 to 40 inches: Unweathered bedrock

Data Source Information

Soil Survey Area: Conway County, Arkansas

Survey Area Data: Version 10, Aug 26, 2009

Map Unit Description, Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes—Conway County, Arkansas

Conway County, Arkansas

23—Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes

Map Unit Setting

Elevation: 500 to 2,800 feet

Mean annual precipitation: 26 to 57 inches

Mean annual air temperature: 49 to 73 degrees F

Frost-free period: 205 to 265 days

Map Unit Composition

Mountainburg and similar soils: 100 percent

Description of Mountainburg

Setting

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Gravelly and stony, loamy residuum weathered from sandstone and siltstone

Properties and qualities

Slope: 8 to 12 percent

Depth to restrictive feature: 12 to 20 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 1.3 inches)

Interpretive groups

Land capability (nonirrigated): 6c

Ecological site: SANDSTONE LEDGE (R118XY013AR)

Typical profile

0 to 5 inches: Gravelly fine sandy loam

5 to 9 inches: Very gravelly fine sandy loam

9 to 16 inches: Very gravelly sandy clay loam

16 to 20 inches: Unweathered bedrock

Data Source Information

Soil Survey Area: Conway County, Arkansas

Survey Area Data: Version 10, Aug 26, 2009

Map Unit Description: Mountainburg stony fine sandy loam, 12 to 40 percent slopes—Conway County, Arkansas

Conway County, Arkansas

24—Mountainburg stony fine sandy loam, 12 to 40 percent slopes

Map Unit Setting

Elevation: 500 to 2,800 feet

Mean annual precipitation: 26 to 57 inches

Mean annual air temperature: 49 to 73 degrees F

Frost-free period: 205 to 265 days

Map Unit Composition

Mountainburg and similar soils: 100 percent

Description of Mountainburg

Setting

Landform: Hills

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Stony loamy residuum weathered from sandstone

Properties and qualities

Slope: 12 to 40 percent

Depth to restrictive feature: 12 to 20 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 1.3 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Ecological site: SANDSTONE RIDGE (R118XY007AR)

Typical profile

0 to 5 inches: Stony fine sandy loam

5 to 9 inches: Very gravelly fine sandy loam

9 to 16 inches: Very gravelly sandy clay loam

16 to 20 inches: Unweathered bedrock

Data Source Information

Soil Survey Area: Conway County, Arkansas

Survey Area Data: Version 10, Aug 26, 2009

Totals for Area of Interest 6.2 100.0%

<p>Description: Hydric Rating by Map Unit</p> <p>This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that all components listed for a given map unit are rated as being hydric, while "not hydric" means that all components are rated as not hydric. "Partially hydric" means that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made.</p> <p>Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.</p> <p>The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).</p> <p>If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).</p> <p>References:</p> <p>Federal Register, July 13, 1994. Changes in hydric soils of the United States.</p> <p>Federal Register, September 18, 2002. Hydric soils of the United States.</p> <p>Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States. Soil Survey Division Staff, 1993. Soil survey manual. Soil Conservation Service, U.S. Department of Agriculture Handbook 18.</p> <p>Soil Survey Staff, 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436.</p> <p>Soil Survey Staff, 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.</p>	<p>Rating Options: Hydric Rating by Map Unit</p> <p>Aggregation Method: Absence/Presence</p> <p>Break Rule: Lower</p>
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APPENDIX D

References

References Cited:

United States Department of Agriculture, Natural Resource Conservation Service.
<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

U.S. Fish and Wildlife Service (USFWS), Southeast Region.
<http://www.fws.gov/southeast/>

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of Conservation Concern.

Hamel, P. 1992. The Land Manager's Guide to the Birds of the South.

Peterson, R. 1980. Birds of Eastern and Central North America.

Arkansas Department of Environmental Quality (ADEQ).
<http://www.adeq.state.ar.us//>

Arkansas Historic Preservation Program, State Historic Preservation Office.
<http://www.arkansaspreservation.com/>

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis of potential environmental impacts contained in the attached environmental assessment (EA), I have determined that the proposed action, with the mitigation measures and stipulations described under "Surface Use Conditions of Approval", will not have any significant impacts on the human environment, and an environmental impact statement (EIS) is not required.

DECISION RECORD

It is my decision to authorize the Salinas Reyes 9-15 #7 APD and the Salinas Reyes 9-15 #8 APD submitted by SEECO, Inc. in Conway County, Arkansas to flow natural gas produced from BLM's federal oil and gas lease: ARES-56458. Each APD was reviewed and accepted under NEPA guidelines and policy. The applicant's surface protection procedures, set forth in the proposed action, are included in the application and need not be formulated into stipulations. Measures identified for the proposed action in the environmental impact section of the EA have been formulated into "Surface Use Conditions of Approval" (SUCOA). SEECO, Inc. will adhere and follow said SUCOAs for both proposed APDs as part of their permit's approval. This decision incorporates by reference those measures and conditions addressed in the EA for approval of the two APDs submitted to BLM by SEECO, Inc.

RATIONALE FOR DECISION

The decision to allow the proposed action does not result in any undue or unnecessary environmental degradation and is in conformance with applicable plans.

Authorized Officer: Bruce Hueser (Acting for Date: 1-8-13
Bruce Dawson)